

Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph 0002 with the following rewritten paragraph:

In a conventional brake device in which driving wheels are applied by brake torque obtained from regenerative brake torque generated by a rotating electric machine and fluid pressure brake torque generated by a fluid pressure brake, an input/output ratio (a boost ratio) of a brake power booster is controlled to obtain on-demand brake torque corresponding to a brake pedal press force as follows (Refer to the patent reference 1). When regenerative brake can ~~[[be]]~~ operate, target fluid pressure brake torque is set to be the sum of the minimum brake torque~~[[,]]~~ of the fluid pressure brake~~[[,]]~~ and distribution brake torque, where the minimum brake torque corresponds ~~corresponding~~ to brake pedal press force, and ~~and~~ ~~distribution brake torque, where~~ the distribution brake torque is calculated by a difference between actual regenerative brake torque and allocated brake torque obtained by subtracting the minimum brake torque from on-demand brake torque.

Please replace paragraph 0003 with the following rewritten paragraph:

In the conventional brake device, the regenerative brake torque is applied directly to the wheel as brake force, and the fluid pressure brake torque ~~by the fluid pressure brake is applies~~ is applied by the fluid pressure brake as brake force ~~transferred into~~ generating friction torque between its brake disk and its brake pad in a disk brake for example. Accordingly, the brake force varies dependent on a variation in a friction coefficient between the brake disk and the brake pad even when the fluid pressure applied is constant. The variation in the friction coefficient causes in cases such that drops of water adhere on the brake disk during driving in the rain or the brake pad is worn away due to long-term use. ~~This causes problems in that~~ The friction-coefficient variation ~~caused~~ generates in the brake force, which is obtained in a braking state of the fluid pressure brake and also in a cooperative braking state of the fluid pressure brake and the regenerative brake ~~and applied to the wheel,~~ thereby giving an uncomfortable feeling to a driver. This is a problem due to a mechanism

that ~~transfers~~ converts the fluid pressure into the friction torque ~~as the brake force applied~~, as described above.

Please replace paragraph 0006 with the following rewritten paragraph:

~~the brake device being characterized to have a pressure-reducing means that applies reaction force inputted from the rotator to the braking means in a brake operation in a direction where the brake fluid pressure is decreased~~ includes a fluid pressure brake, a wheel-cylinder pressure passage, an on-demand brake pressure passage, and a brake reaction torque detecting means (or detector). The fluid pressure brake applies fluid pressure brake torque to a wheel. The wheel-cylinder pressure passage is fluidically connected with the fluid pressure brake to provide the fluid pressure brake with wheel-cylinder pressure to generate the fluid pressure brake torque. The on-demand brake pressure passage is fluidically connectable with the wheel-cylinder pressure passage to determine on-demand brake torque. The brake reaction torque detecting means detects brake reaction torque inputted to the fluid pressure brake. The wheel-cylinder pressure modulator valve is fluidically connected with the wheel-cylinder pressure passage and the on-demand brake pressure passage. The wheel cylinder pressure modulator valve is capable of modulating the wheel-cylinder pressure so that the fluid pressure brake torque can be decreased based on the brake reaction torque and the on-demand brake torque.

Please replace paragraph 0007 with the following rewritten paragraph:

Therefore, ~~[[The]] in the brake device of the present invention, includes the braking means that applies the brake force according to the brake fluid pressure to the rotator fixed to the wheel, and the reaction force inputted from the rotor to the braking means is applied in the reducing direction of the brake fluid pressure. This can decrease the brake fluid pressure can be decreased~~ with a value proportional to the reaction force inputted to the braking means fluid pressure brake. Accordingly, when the friction coefficient between the rotator and the

braking means is high and the brake force applied from the braking means to the rotator is large, its reaction force becomes larger, brake fluid pressure to be decreased becomes larger by that amount. On the other hand, when the friction coefficient between the rotator and the braking means is small and the brake force applied from the braking means to the rotator is small, its reaction force becomes smaller, the fluid pressure to be decreased becomes smaller by that amount. In other words, in the fluid pressure brake, the brake fluid pressure to be decreased is determined according to a value of the reaction force, so that the variation in the brake force applied to the wheel can be suppressed regardless of the variation in the friction efficient between the rotator and the braking means.

Please replace paragraph 0011 with the following rewritten paragraph:

First, its construction will be described.

FIG. 1 is a diagram showing an entire system of a brake device adapted for a motor vehicle of a first embodiment.

The first embodiment is the brake device adapted for the motor vehicle, ~~that~~ The brake device can apply brake torque to drive wheels 3, where the brake torque comprises based on regenerative brake torque TBe and fluid pressure brake torque TBp. The regenerative brake torque TBe is generated by a rotating electric machine 1 of an in-wheel motor type, while the ~~[[and]]~~ fluid pressure brake torque TBp is generated by a fluid pressure brake 2 of a brake disk type. The fluid pressure brake acts as a braking means of the present invention.

Please replace the paragraph starting at page 8, line 15, with the following rewritten paragraph:

The machine side cylindrical case 4 acts as a brake reaction detecting means of the present invention, the vehicle-body side cylindrical case 5 acts as a vehicle-body side member

of the present invention, the master-cylinder fluid pressure chamber 7 also acts as an on-demand brake fluid pressure ~~chamber~~ passage of the present invention, the valve hole 12 acts as a first communicating fluid pressure passage of the present invention, and the communicating fluid pressure passage 10 acts as a second communicating fluid pressure passage of the present invention ~~and the wheel cylinder fluid pressure modulator valve 13 acts as a valve means of the present invention.~~

Please replace the paragraph beginning on page 9, line 25, with the following rewritten paragraph:

The first feedback mechanism 15-1 modulates the wheel cylinder fluid pressure P_w so that a resultant torque T_{Bt} , ~~due to force of piston 13a that is applied through the working arm 14 provided on the machine side cylindrical case 4 to act~~ acting in the opening direction[[,]] can be balanced with an on-demand brake torque T_{B*} [[,]] acting in the opening direction ~~due to operating directional force determined by the product of the master cylinder fluid pressure P_m multiplied by its effective pressure receiving area.~~

Please replace paragraph 0017 with the following rewritten paragraph:

The master-cylinder fluid pressure chamber 7 is providable via a master-cylinder fluid pressure passage 25 with the master cylinder fluid pressure P_m , which is produced by a master cylinder 24 driven by output force of a brake power booster 23 when a brake pedal 22 is pressed. ~~The brake pedal 22 acts as a brake operating means of the present invention. The master-cylinder fluid pressure passage 25 acts as an on-demand brake pressure passage of the present invention.~~

Please replace paragraph 0021 with the following rewritten paragraph:

Adding the regenerative brake torque TBe generated by the rotating electric machine 1 to the fluid pressure brake torque TBp causes the wheel-cylinder fluid pressure modulator valve 13 to modulate a ~~discharge~~ discharge amount of ~~bake~~ brake fluid from the wheel-cylinder fluid pressure chamber 8 to the return fluid pressure chamber 9 by opening and closing the valve 13 so that the sum torque of the regenerative brake torque TBe ~~that is~~ obtained through the working arm 14 ~~of the machine side cylindrical case 4 and act in the opening direction~~ and the fluid pressure brake torque TBp can be balanced with the on-demand brake torque TB* that is determined based on on-demand brake fluid pressure ~~and acts in a closing direction of the valve 13~~. Accordingly, the wheel cylinder fluid pressure Pw is modulated to be smaller as the regenerative brake torque TBe becomes larger when the on-demand brake torque TB* is constant.

Please replace paragraph 0027 with the following rewritten paragraph:

~~N-ext~~ Next, its advantages will be described.

The brake device of the first embodiment has the advantages listed below.

Please replace paragraph 0028 with the following rewritten paragraph:

(1) The brake device for motor vehicles, having the ~~braking means~~ fluid pressure brake for applying the brake force according to the brake fluid pressure to the rotator fixed to the wheel, is provided with a ~~pressure reducing means~~ the wheel-cylinder pressure modulator valve for ~~applying the reaction force inputted from the rotator to the braking means~~ modulating the wheel-cylinder pressure so that the fluid pressure torque can be decreased based on the brake reaction torque and the on-demand brake torque during the brake operation in a direction where the brake fluid pressure is reduced. The variation in the brake

force acting on the wheel can be suppressed regardless of the variation in the friction coefficient between the rotor and the braking means in the fluid pressure brake.

Please replace paragraph 0029 with the following rewritten paragraph:

(2) The ~~pressure-reducing means has the valve means~~ wheel-cylinder pressure modulator valve is capable of shifting between a maintaining state and a reducing state of the brake fluid pressure, where the reaction force is applied to the ~~braking means~~ fluid pressure brake in ~~[[a]] the direction in which the brake fluid pressure in the valve means is decreased.~~ This valve shifting operation between the maintaining state and the reducing state of the brake fluid pressure can control the brake fluid pressure to be decreased according to the reaction force inputted to the ~~braking means~~ fluid pressure brake to be decreased.

Please replace paragraph 0031 with the following rewritten paragraph:

(4) The brake reaction detecting means is provided swingably relative to the vehicle body side, and the ~~braking means~~ fluid pressure brake and the brake reaction detecting means are integrated with each other so that an amount of the reaction force inputted to the braking means ~~fluid pressure brake is transferred~~ changed into a displacement in a swing movement of the brake reaction force detecting means. Therefore, the brake reaction means can easily detect the reaction force inputted to the ~~braking means~~ fluid pressure brake based on a swing movement ~~amount~~ displacement.

Please replace paragraph 0032 with the following rewritten paragraph:

(5) The drive device (the rotating electric machine 1) is provided to apply its ~~[[drive]]~~ drive force to the wheel, and the brake reaction detecting means comprises the drive device case (the machine side cylindrical case 4) containing the rotating electric machine 1.

Therefore, the brake reaction force can be easily detected by using the drive device case, which brings the brake reaction detecting means to be a simple construction.

Please replace paragraph starting at page 25, line 12, with the following rewritten paragraph:

The ABS fluid pressure source for one wheel has, as shown in FIG. 4, a reservoir 38, a first check valve 41, an fluid pump 40, and a second check valve 39, where an inlet port side of the fluid pump 40 and a return fluid pressure chamber 9 are communicated with each other via a return fluid pressure passage 29, and its outlet port side is connected with an ABS brake fluid pressure passage 42. The ABS brake fluid pressure passage 42 acts as the on-demand brake pressure passage of the present invention.

Please replace paragraph starting at page 29, line 14, with the following rewritten paragraph:

The pressure-increasing solenoid valve ~~[[45a]]~~ 43a is arranged in parallel with the fourth check valve 44 to increase the ABS brake fluid pressure PABS to be supplied to the ABS brake fluid pressure chamber 8, and the pressure-reducing solenoid valve ~~[[45b]]~~ 43b decreases the ABS brake fluid pressure PABS supplied to the ABS brake fluid pressure chamber 37. The pressure-reducing solenoid valve ~~[[45b]]~~ 43b is fluidically connected with the return fluid pressure passage 29 that communicates the return fluid pressure chamber 9 and an accumulator 38 with each other. The other parts of the fifth embodiment is similar to those of the fourth embodiment.

Please replace paragraph starting at page 30, line 5, with the following rewritten paragraph:

When the ABS system is operated, the shut-off valve 46 shuts a communication

between the master-cylinder fluid pressure passage 25 and the ABS brake fluid pressure passage 42 to supply pressured brake fluid from the fluid pump 40 to the pressure-increasing solenoid valve ~~[[45a]]~~ 43a to function the ABS system. In this ABS brake operation, the pressure-increasing solenoid valve 45a and the pressure-reducing valve ~~[[45b]]~~ 43b increase, maintain and reduces the ABS brake fluid pressure PABS to be supplied to the ABS fluid pressure chamber 37 according to a state of the wheel. Incidentally, the other parts shown in FIG. 5 are similar to those of the first embodiment, and the corresponding parts are indicated by the same reference numbers and their explanations are omitted.

Please replace paragraph 0076, with the following rewritten paragraph:

As shown in FIG. 8 and FIG. 9, a brake device of the sixth embodiment has a load cell 70, as a brake reaction force detecting means, which is arranged at a position between a machine-side cylindrical case 4 and a vehicle-body-side cylindrical case 5 and electrically detects the reaction force of fluid pressure brake force inputted to a brake caliper 17. The load cell 70 acts as a torque sensor of the present invention. Incidentally, a rotating electric machine 1 of the sixth embodiment is, similarly to that of the first embodiment, an in-wheel electric motor with reduction gears in which an electric motor M and the reduction gears G are arranged in the machine-side cylindrical case 4 connected with an integral brake caliper 17 in a driving wheel.

Please replace paragraph 0077 with the following rewritten paragraph:

The pressure-reducing means is an electric feedback circuit that controls a pressure-reducing valve 71 for reducing brake fluid pressure according to a detected torque value outputted from the load cell 70. ~~The pressure-reducing valve 71 acts as a valve means of the present invention.~~ This electric feedback circuit has the pressure-reducing valve 71, which is arranged between a wheel-cylinder fluid pressure passage 27 conducting ABS brake fluid pressure from an ABS system provided at a downstream side of a master cylinder 24 to a

wheel cylinder through an ABS fluid pressure passage 42, and a return fluid pressure passage 29 fluidically connected with an pump inlet port side of the ABS system, and controlled according to the detected torque value outputted from the load cell 70. Incidentally, an orifice 72 is provided between the ABS brake fluid pressure passage 42 and the wheel-cylinder fluid pressure passage 27 so as to separate the ABS brake fluid pressure (basic pressure) P1 and the wheel cylinder fluid pressure (pressure reduced according to a value detected by the load cell) P2 from each other.

Please replace paragraph 0088 with the following rewritten paragraph:

The eighth embodiment is an example in which a wheel is provided with a ~~starting~~ brake device, removing the rotating electric machine of the first embodiment.